DOCUMENT RESUME

ED 066 586 VT 016 454

TITLE	An Assessment of Current and Projected Individualized Instruction in Business and Marketing Courses Provided by the Districts of the Wisconsin Vocational, Technical, and Adult Education System. Final Report.
INSTITUTION	Wisconsin Univ., Madison.
SPONS AGENCY	Wisconsin State Board of Vocational, Technical, and Adult Education, Madison.
PUB DATE	Nov 71
NOTE	49p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Adult Education; *Annotated Bibliographies; *Business Education; *Curriculum Planning; *Individualized Instruction; *Marketing; Post Secondary Education; Student Attitudes; Teacher Attitudes; Vocational Education

ABSTRACT

Based on interviews with a representative of each of the 18 Vocational, Technical, and Adult Education Districts of Wisconsin, this study sought to determine the present and future use of individualized instruction in business and marketing offerings. Analysis of the interview data revealed that: (1) 12 of the 18 districts reported business or marketing courses which were utilizing individualized instruction, (2) 11 districts anticipated adding courses with individualized instruction, (3) The most frequently offered courses were typewriting, shorthand, business mathematics, and communications, (4) Most of the courses were at the national level and many were designed for remedial or special needs students, and (5) Students and teachers both exhibited a positive attitude toward individualized instruction. (JS)

ED 066586

✓ Business Education
✓ Individualized Instruction
✓ Wisconsin State Supplied
✓ University of Wisc.

W-1007

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AN ASSESSMENT OF CURRENT AND PROJECTED INDIVIDUALIZED INSTRUCTION IN BUSINESS AND MARKETING COURSES PROVIDED BY THE DISTRICTS OF THE WISCONSIN VOCATIONAL, TECHNICAL, AND ADULT EDUCATION SYSTEM

Proj 19.007.151.212

Final Report of a Study Conducted With Support From The
Wisconsin Board of Vocational, Technical and Adult Education
Project Numbers 19.007.221, 19.007.222

The University of Wisconsin
Madison, Wisconsin

November, 1971

VT016454

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PREFACE

In Wisconsin's Post Secondary Vocational, Technical and Adult Education System, the area of Business and Marketing continues to be a major area of occupational preparation. The expanding enrollments at the post secondary level, the continuous addition of new courses and programs, the development of materials and adaptation of technology supportive of individualized instruction prompted this study. It was deemed necessary for planning, development, and future evaluation that an assessment of the current status in the Wisconsin Vocational, Technical and Adult Education Districts be made.

The interviews for the report were made during April and May of 1971. The data reflects the status of individualized instruction in the Business and Marketing Courses in each of the WBVTAE Districts at that time as reported by the selected respondent identified by each District Director. The study was not intended to be evaluative in any way and none of the comments in this report are intended for judgmental interpretation.

Acknowledgment and appreciation of cooperation must be extended to each of the WBVTAE Districts, the study respondents and the teachers and students who assisted in making observations and data available. Recognition and thanks are also extended to Dr. Russell J. Hosler and Dr. Judith Lambrecht, and to the assistants in the Business and Distributive Education offices at the University of Wisconsin in Madison who assisted in the preparation of the study. To Mr. Lawrence Plisskin who served as field investigator for the study go special thanks for his many contributions.

Harland E. Samson
Project Director

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ABSTRACT

TITLE: An Assessment of Current and Projected Individualized Instruction in Business and Marketing Courses Provided by The Districts of the Wisconsin Vocational, Technical, and Adult Education System

AGENCIES: Wisconsin Board of Vocational, Technical and Adult Education (Project Numbers: 19-007-151-221 and 19-007-151-222)
The University of Wisconsin, Madison, School of Education (Project Numbers: 144-B740 and 144-C351)

PROJECT DIRECTOR: Dr. Harland E. Samson, Professor Education and Business Curriculum and Instruction Department, School of Education

OBJECTIVES:
1. To determine which Business and Marketing Courses are now utilizing individual instruction including materials and resources.
2. To determine projected courses, needed materials, types of resources, problems and strengths and weaknesses of individualized instruction.

PROCEDURE: Each of the eighteen VTAE district directors were contacted with an initial inquiry as to the extent of individualized instruction in business and marketing courses in their schools. A respondent identified by the director was contacted for a personal interview for additional information.

PRINCIPLE FINDINGS: The basic definition of individualized instruction used in the study was - "structured but independent learning for a student who may progress in a topic, unit or area at his own pace and at his level of interest and ability."

Twelve of the eighteen districts reported business or marketing courses utilizing individualized instruction. Eleven districts anticipated adding course(s) with individualized instruction during 1971-1972. The most frequently offered courses were typewriting, shorthand, business mathematics, and communications.

Most of the courses were at the vocational level and many were designed for remedial or special needs students. Student and teacher reactions to individualized instruction covered a diversity of points, but overall was of a positive nature.

RECOMMENDATIONS: It appears that considerable interest and activity does exist regarding individualized instruction. Much of the procedure and many of the materials need to be evaluated and tested to determine if they are effective and efficient. Lack of materials and lack of administrative know-how to manage individualized instruction seem to be two major deterrents to effective utilization of individualized instruction. Several content areas such as marketing, business law, economics, and finance, where there would seem to be potential for individualized instruction, are noticeably lacking in activity. These areas should be given attention in the development and testing of materials.

PART I - OBJECTIVES AND PROCEDURE

The individualization of instruction has traditionally been an important aspect of vocational and technical instruction. In recent years increased efforts have been made to permit students greater flexibility in the pace and scope of instruction. This increased effort has generated materials, equipment and learning packages specifically designed to accomodate individualization of instruction.

This study was conducted to determine the present status of individualized instruction in the Business and Marketing offerings in each of the Vocational, Technical and Adult Education Districts of Wisconsin. The study also sought information as to expected future use of individualized materials in each district. These and related observations are intended to contribute to the planning and development of individualized systems for the various courses in business and marketing.

Objectives The specific objectives of this study were to determine the following:

1. The courses presently utilizing individualized instruction.
2. The courses in which individualized instruction would be initiated in 1971 - 1972 school year.
3. The materials and resources used in present individualized instruction.
4. The content areas for which additional individualized instruction materials are needed.
5. The types of resources needed to implement individualized instruction.
6. The problems restricting the use of individualized instruction program in each district.
7. The significant strengths and weaknesses of the individualized instructional approach as seen both by the instructors and the students.

Procedure The population for this study consisted of the eighteen vocational, technical and adult education districts in Wisconsin. Each district director

was contacted and was asked to identify the appropriate person who could respond for that district (Appendix B). A personal interview was made with each person. At the interview specific questions (Appendix A) were asked. The data from each district was tabulated for individual profiles as well as combined for a statewide perspective.

The definition of individualized instruction used in this study was phrased in rather broad language as follows: "Individualized instruction - structured but independent learning for a student who may progress in a topic, unit or area at his level of interest and at his own pace and ability." Each of the respondents responded on the basis of their interpretation of this statement.

In those districts where individualized instruction was utilized the interviewer also obtained additional responses from instructors and students directly involved.

Analysis of Data The data collected for this study was summarily tabulated and a preliminary report made in June, 1971. Copies of the preliminary report were sent to all business teacher preparation institutions and to state staff. The analysis of data in this final report is substantially the same although somewhat more extensive. The tabulation and accompanying narrative are presented in three sections that follow. Part II presents the current (as of Spring 1971) and projected courses utilizing individualized instruction. Part III describes the materials and media being used. Part IV presents the teacher and student observations and the areas needing development. The Appendices include the questionnaire, respondents, and the annotated bibliography.

PART II - CURRENT AND PROJECTED COURSES

One of the primary objectives of this study was to determine which of the business and marketing courses offered by the VTAE District schools were currently utilizing individualized instruction. This information is shown in Table I and reveals that in twelve districts 83 courses utilizing individualized instruction were being offered in the 1970-1971 school year.

Also of interest was which districts planned to offer what courses utilizing individualized instruction during the 1971-1972 school year. This information is presented in Table II. Eleven districts had some plans for adding or expanding 43 course offerings incorporating individualized instruction.

In order to gain insight as to the nature and level of the courses utilizing individualized instruction, data was obtained as to the level at which the courses were taught. The levels were categorized as "Vocational," "Associate," "Adult," and "Special." Table III shows the distribution of courses by district and by the four levels. Also given is a column showing a code number of the materials or media used. These codes with a description of the associated materials or media are presented in Part III. The courses proposed for 1971-1972 by district and level, with materials where known, are shown in Table IV.

Of the offerings in 1970-1971, 68 or 32.2 percent were in the Vocational Category; 45 or 21.4 percent were in the Associate Category; and 49 or 23.2 percent each in the Adult and in the Special Categories. The distribution of courses proposed for 1971-1972 show that 16 or 24.3 percent are in the Vocational Category; 25 or 40.3 percent in the Associate Category; 12 or 19.3 percent in the Adult Category and 9 or 16.1 percent in the Special Category.

TABLE I

Courses Offered Through Individualized Instruction in 1970-1971 By District

District Number	Courses
3	Business Machines, Machine Transcription, Stenography
4	Shorthand I, II, III, IV, Accounting I, Data Processing, Typewriting I, Clerical, Reading, Communication Skills, Secretarial Sciences
6	Shorthand I, II, III, IV, American Institutions, Clerk Typist, Court and Conference Clerk, Data Processing, Business Math, Remedial Math, Remedial Communications
7	Business Math
8	Typing I, Machine Calculation, Business Calculation
9	Accounting, Key Punch, Business Machines, Related Business, Related Business Office Practice, Personal Orientation To Business, Related Business Real Estate, Related Business Finance, Personal Money Management, Shorthand I, Shorthand Workshop, Shorthand Review, Shorthand II, III, IV, Speed Typewriting, Cashiering
10	Business Law, Development Reading - Communication Skills, Clerk Typist, Office Procedures, Typing I, II, III, IV, Shorthand
11	Office Filing, Key Punch,Operator, Machine Calculations, Clerical Typing I and II, Executive Typing, Production Typing, Typing I and II, Shorthand Theory I and II, Shorthand Transcription, Office Machine, Legal Office Practice, Business Math
12	Typing I, Business Math
14	Business Math, Shorthand, Machine Calculations
15	Accounting I, Clerical Machines, Secretarial Machines, Shorthand, Marketing II
16	Business Communications, Development Reading, Typing

TABLE II

Courses Anticipated Through Individualized Instruction
For 1971-1972 By Districts

District Number	Courses
2	Typing, Office Machines, Shorthand, Adult Accounting, Marketing
3	Payroll Accounting, Typing, Business Machines
6	Business Law, Marketing-Sales, Aviation Law
8	Accounting I and II, Merchandising, Non Textiles, Merchandise Math, Principles of Advertising, Data Processing
9	Medical Machines
10	Typing I, II, III, IV, Business Machines I, Accounting I, II, III, IV
12	Accounting, Marketing, Merchandising, Data Processing
13	Typing I and II, Business Math, Machine Calculations
14	Stenography
15	Accounting II, Income Tax Payroll Cost Accounting, Business Machines, Typing I and II
16	Marketing

TABLE III

Courses Offered in 1970-1971 by District, Level and Type of Material

Course Title	Vocational		Associate		Adult		Special	
	Dist.	Mat.	Dist.	Mat.	Dist.	Mat.	Dist.	Mat.
Typewriting I	4 8 9 11 12	17 31 19,28 31 19	4 8 10 11 12	17 31 10 31 19	4 8 9 11 12	17 31 19,28 31 19	4 8 9 11 12	17 31 19,28 31 19
Typewriting II	9 11	19,28 32	10 11	10 32	9 11	19, 28 32	9 11	19, 28 32
Typewriting III	9	19, 28	10	10	9	19, 28	9	19, 28
Typewriting IV	9	19, 28	10	10	9	19,28	9	19, 28
Shorthand I	4 6 9 11	23 22 19, 25 23	4 6 9 10 14	23 22 19, 25 24 24	4 6 9 14	23 22 19, 25 24	4 6 9 14	23 22 19, 25 24
Shorthand II	4 6 9 11	23 22 19 23	4 6	23 22	4 6 9	23 22 19	4 6 9	23 22 19
Shorthand III	4 6 9	22, 23 22 19	4 6	22, 23 22	4 6 9	22, 23 22 19	4 6 9	22, 23 22 19
Shorthand IV	4 6 9	23 22 19	4 6	23 22	4 6 9	23 22 19	4 6 9	23 22 19
Business Math	7 11 12 14	7 8 8 7	6 7 12 14	21 7 8 7	12 14	8 7	12 14	8 7

TABLE III (Cont.)

Course Title	Vocational		Associate		Adult		Special	
	Dist.	Mat.	Dist.	Mat.	Dist.	Mat.	Dist.	Mat.
Reading and Communications Skills	4 6 10 15	17 17 21 10, 17, 27	4 6 10 15	17 17 21 10, 17, 27	4 6 10 15	17 17 21 10, 17, 27	4 6 10 15	17 17 21 10, 17, 27
Business Machines	3 8 9 11 15	6 4 17 19 21	8 15	4 21	3 8 9	6 4 17	8 9	4 17
Clerk Typist	6 10 11 15	10 21 29 28	6 15	10 28	6 15	10 28	6 4 15	10 15 28
Machine Calculations	8 11 14	4 19 5	8 14	4 5	14	5	14	5
Accounting I	4 9	2 2	4 15	2 21	9	2	9	2
Office Procedures	9 10 11	11 10, 19 21			9	11	9	11
American Institutions	6	21	6	21	6	21	6	21
Key Punch	9 11	17 14			9	17	9	17
Remedial Math	6	17	6	17	6	17	6	17
Business Orientation	9	18			9	18	9	18
Cashiering	9	9			9	9	9	9
Real Estate	9	33			9	33	9	33
Related Business	9	7			9	7	9	7

TABLE III (Cont.)

Course Title	Vocational		Associate		Adult		Special	
	Dist.	Mat.	Dist.	Mat.	Dist.	Mat.	Dist.	Mat.
Secretarial Science	4	22	4 15	22 21				
Data Processing			4 6	17 17				
Money Management	9	16			9	16	9	16
Business Law			10	21				
Court & Conference Clerk .			6	22				
Executive Typing	11	19						
Finance	9	12			9	12	9	12
Marketing II			15	17				
Production Typing	11	19						
Steno	3	24						
Machine Transcription	3	13						
Shorthand Review	9	26			9	26	9	26
Shorthand Workshop	9	22			9	22	9	22
Machine Shorthand	9	19			9	19	9	19
Speed Typewriting	9	30			9	30	9	30
Shorthand Transcription	9	19						
Total Courses* in All Districts	68	X	45	X	49	X	49	X
Grand Total = 211								

*This Total is of course titles only. Schools may have several sections of an offering, thus the number of classes is undoubtedly greater than these totals.

TABLE IV

Courses Proposed for 1971-1972 by District, Level and Type of Material

Course Title	Vocational		Associate		Adult		Special	
	Dist.	Mat.	Dist.	Mat.	Dist.	Mat.	Dist.	Mat.
Typewriting I - IV	2 3 10 13 15	31 31 31, 32 31,32 31,32	2 10 13 15	31 31, 32 31, 32 31,32	2 3 10 13 15	31 31 31, 32 31, 32 31, 32	2 10 13 15	31 31, 32 31, 32 31, 32
Shorthand I - IV	2	10	2	10	2	10	2	10
Stenography	14	18						
Business and Office Machines	2 3 10 13 15	4 20 4 4 4	2 10 13 15	4 4 4 4	2 3 13 15	4 20 4 4	2 13 15	4 4 4
Accounting I			8 10	-- 1				
Accounting II			8 10 15	-- 1 21				
Accounting III & IV			10	1				
Data Processing			8	--				
Business Law			6	21				
Advertising Principles			8	--				
Aviation Law			6	21				
Merchandise Mathematics			8	--				
Merchandising			8	--				
Non-textiles			8	--				
Payroll Accounting	3	3	15	21				
Marketing - Sales			6	21				
Transcription, Medical Machines	9	--				--		
Business Mathematics	3 13	7 4	13	4	13	4	13	4
Total Courses in All Districts	16	X	25	X	12	X	9	X

It can be noted that while the current offerings tend to be somewhat heavier in the Vocational Category additions or expansions are heavier in the Associate Category.

The most frequently offered courses are Typewriting, Shorthand, Communications and Business Mathematics. Only four courses related to the marketing area are currently utilizing individualized instruction.

PART III - MATERIALS AND MEDIA

In the twelve VTAE districts currently utilizing individualized instruction in business and marketing courses 33 different material sources and/or media were in use. These range from learning systems specially created for individualized instruction to informal teacher help activities which may questionably meet the criteria for individualized instruction. Twenty-four of the items incorporate, whole or in part, commercially prepared materials and nine items are locally prepared materials.

The materials found in use are described in Part III. To facilitate relating these descriptions to the courses and districts found in Tables III and IV, Part II, each has been given a code number. For more explicit explanation of the materials or media, contact would have to be made with the reporting district.

Code	Description of material

1 Accounting, AICPA

American Institute of Certified Public Accountants has put out a collection of cassettes for preparation of the CPA exam. They include: Accountant's Legal Liability; Bar Chris; Going Public; Explanation of APB Opinions No. 16 and 17; Tax Reform Act No. 1; Tax Reform Act No. 2; Tax Reform Act No. 3; and General Review of the Tax Reform Act of 1969. There are also the Tax Highlights Quarterly and the SEC Quarterly.

2 Accounting, college - South Western Publishing Co.

Utilization of regular college accounting texts such as; College Accounting by Carson, Carlson, and Boling or Accounting Principles by Niswonger and Fess. Students are permitted to proceed through these materials at their own pace.

3 Accounting, payroll = South Western Publishing Co.

Payroll Records and Accounting by Keeling and Pendery is a combination textbook and workbook that emphasizes methods of computing wages and salaries, methods in keeping records, and the making of government reports. Model filled-in returns prepared on official forms are reproduced for reference.

4 AVT = Audio-Visual-Tutorial

AVT by Media Systems Corporation is a learning system designed for independent study incorporating media with individual study carrels. The system combines printed materials with recorded tapes (audio), sets of slides or films (visual), and the individual attention of a skilled instructor (tutorial) in order to achieve maximum learning effectiveness for each student.

Business Calculating Machines BML-107 = AVT

Units are available for the ten-key adding machine, printing calculator, key-driven calculator, rotary calculator, full-keyboard calculator, and the electronic calculator. Each lesson has a ten to fifteen minute presentation in which the student listens, watchs, and participates during the presentation. Suggested objective and performance tests are self administered and corrected by the students. A student manual is provided to guide the student in listening unit and lesson objectives in specific behavioral terms, audio-visual materials related to each lesson, written instructions for each lesson, and comprehensive practice exercises and drills for each lesson.

5 Business machine, calculations = South Western Publishing Co.

These include the textbook, workbook, and achievement tests for each of the particular machines to be used.

6 Business machines, self developed packets

Each packet is a compilation of materials and problems gathered from a number of different sources and directed specifically to the particular machine on which the student is working. The machines included are: the full-key adding machine; ten-key adding machine; electric calculator; printing calculator; rotary calculator; and the key punch machine. Each packet contains discussions as to stages in the instruction at which the student should ask for tests on each machine.

7 Business mathematics, programmed = Gregg Division, McGraw Hill Publishing Company

These three books by Huffman-Schmidt are broken down into three sections and each section into separate units. Tests are given after each few units of work are completed. The books are set up so the work can be done on a completely individualized basis.

8 Business mathematics, Milwaukee package

This is a series of instructional units for business mathematics developed specifically for the Trade and Industrial area.

9 Cashiering, NCR

"Instructions to Checker-Cashiers" is a pamphlet published by the National Cash Register Company on instructions to checker-cashiers for using the NCR check-out system.

10 EDL = Educational Developmental Laboratories

Controlled Reader--Material is projected across the screen in left to right motion, covering and uncovering reading material as it goes, or in one entire line at a time. The teacher may stop and start the projection or project the material continuously at rates of from 50 to 130 frames per minute. Filmstrips ranging from readiness through college and adult level, special filmstrip material correlated with the classroom textbooks, unique textbooks for some courses, and teacher's manuals are available.

Skill Builder--Material is projected across the screen in left to right motion, covering and uncovering material as it goes, or in one entire line at a time. The teacher may stop and start the projection or project the material continuously at rates of from 2 to 18 frames per minute. Special filmstrip material, unique textbook approaches, and teacher's manuals are available.

11 Filing, office practice = South Western Publishing Co.

Business Filing and Records Control, Third Edition, by Bassett, Agnew, and Goodman is used. This includes the textbook, filing office practice, a final examination for Business Filing, and an instructor's manual. It provides instruction and actual practice in card filing and correspondence filing.

12 Finance, related business

The New York Stock Exchange is studied and each student is taught how to read the stock quotations.

13 IBM dictation belt packages

A collection of prerecorded IBM dictation belts for use in trans-

cribing practice. Test belts are available for performance evaluation.

14 Key punch operator

A supplement to the textbook put out by Prentice Hall is used.

15 MDTA = Man Power Development Training Act

Consists of materials especially developed for the program in the business area. This program is largely a clerical emphasis.

16 Money management, personal = Allyn and Bacon, Inc. Publishing Co.

Personal Finance by Unger and Wolf covers topics such as personal income and budgeting annuities and insurance; investments ranging from thrift institutions to purchasing of securities taxes and assets.

17 Personal assistance instructors

Involves special teacher assistance and instruction.

18 Personal orientation to business = Milady Publishing Co.

They use for women, Tolman's Charm and Poise and for men, James' Man's View.

19 Open lab

The open lab is a number of tape playback units, an appropriate library of prerecorded tapes, and a room for the equipment and materials which is available to the students all hours of the day that the school building is open. The open lab is designed for the individual use of students outside of the regular class situation.

20 R.E.A.L. = Realistic Education Activity Learning

The student is able to learn to operate the multipress at his own progress through the use of slide presentations, film strips, 8 mm. motion picture, and the guide book.

21 Self developed cassettes, tapes, films, programs

Each packet is a compilation of material that is developed specifically for the particular course offered. These may have a component of materials from commercially available items.

22 Self developed shorthand speed dictation tapes

These are self developed packets that are correlated with the materials used in the course.

23 Shorthand, Gregg Diamond Jubilee College Books = Gregg Division, McGraw Hill Publishing Co.

Consists of the four books: Gregg Shorthand for Colleges, Volume 1, which includes a student's transcript, a workbook, and an instructor's handbook; Gregg Shorthand for Colleges, Volume 2, which includes a student's transcript, a workbook, and an instructor's handbook; Gregg Speed Building for Colleges, which includes the student's transcript, a workbook, and an instructor's handbook, and dictation records and tapes; and Gregg Transcription for Colleges, which includes dictation records and tapes.

24 Shorthand, multiple channel

This is a four channel electronic lab with individual receivers for the headset of each student. Cartridges for various speed development are used with this equipment.

25 Shorthand, programmed = Gregg Division, McGraw Hill Publishing Co.

Programmed Gregg Shorthand by Hosler, Condon, Grubbs, and Hoffman is completely set up so each student can do it on an individualized basis. This book consits of 48 lessons with a speed development tape given at the end of each six lessons. There is a theory test given at the end of each lesson. There are ten additional lessons for speed development on prerecorded tape.

26 Shorthand review = Gregg Division, McGraw Hill Publishing Co.

Shorthand Refresher by Strony, Garvey, and Newhouse is used in this course. Records are also available for speed development.

27 SRA = Science Reaearch Associates

Publishes material that will help students who have a difficult time learning as well as challenge and stimulate those who learn with ease. The kits include problems and exercises, transparency masters, instructor's guides, and tapes.

28 Typewriting for colleges = Gregg Division, McGraw Hill Publishing Co.

Typing 75 Modular System by Lloyd, Rowe, and Winger is a comprehensive flexible college typing program that provides up to two full years of typing instruction. The complete system is made up of four special learning kits for four different levels of skill development (basic, advanced, expert, and professional). Correlated instructional tapes, transparencies, records, are available with each unit. Each kit contains a spiral-bound textbook, a workguide, and a proofguide.

29 Typewriting = South Western Publishing Co.

College Typewriting by Lessenberry, Wanous, and Duncan includes the textbook, laboratory materials, instructional tapes, wall charts, tests, and placements tests.

30 Typewriting, speed = South Western Publishing Co.

Basic Typewriting Drills, Fourth Edition, by Wanous and Wanous is a book of selective drills to be used for developing speed, correcting errors, and developing correct habits.

31 AVT = Audio-Visual-Tutorial

AVT by Media Systems Corporation is a learning system designed for independent study incorporating media with individual study carrels. The system combines printed materials with recorded tapes (audio), sets of slides or films (visual), and the individual attention of a skilled instructor (tutorial) in order to achieve maximum learning effectiveness for each student.

Typing Introductory Unit BTL-100 Consists of lessons one through forty two which are single-concept lessons utilizing films, slide-tape presentations, or skill-building (timed writing) tapes. Five to fifteen minute audio-visual presentations in which the students listen, watch, and participate in the carrel during the presentation. A pre-test is given and self administered theory tests are suggested to evaluate their own progress. A student manual is provided to guide the student in listening unit and lesson objectives in specific behavioral terms, audio-visual materials related to each lesson, written instructions for each lesson, and comprehensive practice exercises and drills for each lesson.

32 AVT = Audio-Visual-Tutorial

AVT by Media Systems Corporation is a learning system designed for independent study incorporating media with individual study carrels. The system combines printed materials with recorded tapes (audio), sets of slides or films (visual), and the individual attention of a skilled instructor (tutorial) in order to achieve maximum learning effectiveness for each student.

Typing Intermediate Unit BTL-101 Consists of lessons forty-three through eighty-two which are single-concept lessons utilizing films, slide/tape presentations, or skill-building (timed writing) tapes. Each lesson is a five to fifteen minute audio-visual presentation in which the student listens, watchs, and participates in the carrel during the presentation. There are seven production tests and four theory tests. A student manual is provided to guide the student in listening unit and lesson objectives in specific behavioral terms, audio-visaul materials related to each lesson, written instructions for each lesson, and comprehensive practice exercises and drills for each lesson.

33 Wisconsin Real Estate Law

Looseleaf information provided by the Wisconsin Real Estate Division is used in regard to the real estate laws in the state of Wisconsin. This is in preparation for the examination for real estate brokers.

PART IV - PARTICIPANT OBSERVATIONS AND RECOMMENDATIONS

In addition to determining the basic status of individualized instruction in the business and marketing courses, teachers and students involved were asked additional questions. The respondents and instructors were asked about initiating individualized instruction and materials needed. Teachers and students were asked to describe strengths and weaknesses of individualized instruction.

Problems in Beginning Individualized Instruction The difficulties of initiating individualized instruction in business and marketing courses reported by the districts are shown in Table V. Six of the districts felt that the instructional staff did not want to or did not have adequate time to develop individualized instructional materials. The next concern, reported by four districts, was that the staff was not qualified to develop materials. Some of the respondents felt that if instructors would take appropriate courses in media or methods, this problem could be eliminated. Facilities, finances, student motivation, scheduling, administration, materials, teaching loads, student orientation, and teacher security were also reported by a few of the districts.

Strengths and Weaknesses - Teachers The significant strengths and weaknesses of individualized instruction reported by the instructional staff included the following:

Strengths:

1. A more realistic and practical experience for the student
2. More individualized assistance for students by instructors
3. More freedom for students to set an individualized learning pace
4. Less pressure on slow learners
5. Beneficial review technique for students already familiar with material
6. Instant availability of instructional materials. (no need to wait for new semester to begin)
7. Constant reinforcement for learners

TABLE V

Problems in Beginning Individualized Instruction

Problem	Frequency	District
Development of Individualized Instruction materials	6	1, 6, 10, 12, 15, 17
Lack of qualified staff	4	2, 8, 11, 13
Inadequate facilities	3	3, 5, 14
Financial	3	5, 7, 9
Budget	3	2, 16, 17
Administering such a program	3	2, 7, 10
Equipment and space	2	2, 4
Lack of commercial packets	2	3, 17
Scheduling	2	9, 13
Student Motivation/Orientation	2	7, 16
Reduction of teacher loads	1	15
Teacher concern with job loss	1	12
Additional staff	1	14
Determination of pre-requisites	1	11
Range of student abilities	1	4
Transfer of credit	1	9

Weaknesses:

1. Lack of necessary supervision
2. Difficult to motivate the marginal student
3. The full capacity of student not always utilized
4. Lack of class discussions
5. Tendency of some students to cover material too quickly with the result that students do not retain required material
6. Only limited teaching techniques exercized

Strengths and Weaknesses - Students The significant strengths and weaknesses of individualized instruction reported by students included the following:

Strengths:

1. The student is taught to be independent
2. The student is on his own and able to proceed at his own speed
3. If the student needs assistance, the instructor is able to help
4. The student is not held back because of any other students
5. More relaxed classroom atmosphere
6. Working at one's own ability increases accuracy
7. Student is allowed freedom to choose areas of concentration
8. The student learns to budget his time
9. Course content is more clearly explained
10. The student can avoid unnecessary review

Weaknesses:

1. Lack of motivation to complete the required course work
2. Not enough contact with the instructor
3. Lack of materials forced some students to wait until someone else finished with the materials

Additional Materials Recommended

The respondents felt that additional individualized instructional materials should be developed in more specific content areas. More than one-third of the respondents wanted more materials developed in typing. Four wanted more shorthand, more communication, and more marketing individualized instructional materials. Two respondents wanted more individualized instructional materials developed in each of the other areas listed:

1. Typing (6)
2. Shorthand (4)
3. Communication (4)
4. Marketing (4)
5. Beginning Accounting (2)
6. Office Procedures (2)
7. Business Math (2)
8. Business Machines (2)
9. Remedial Areas (2)

Implementation of new individualized instructional materials would depend upon the availability of various resources. Resources mentioned by study respondents included:

1. Cassettes
2. Transparencies
3. Video tapes
4. Programmed textbooks
5. Self-developed packets
6. Slides
7. Looped 8mm films and projectors
8. Carrels
9. TV studios
10. Filmstrips
11. Media Center

APPENDIX A

ASSESSMENT OF INDIVIDUALIZED INSTRUCTION CURRENTLY USED
IN WISCONSIN VOCATIONAL, TECHNICAL, AND ADULT BUSINESS PROGRAMS

District _____ Code _____

School _____ Code _____

Person Interviewed _____ Phone _____

Title _____ Date _____

1. Indicate on the attached sheet what business courses are currently offered utilizing an Individualized instruction approach. (course - title - level: vocational, associate degree, adult, special need)

2. For each course which is currently using some form of individualized instruction:
   a. Have each instructor involved with the course respond to the following questions:
      - Describe individualized instruction material, process, instructions, or media used or followed in your courses.
      - What are the significant strengths of this approach, material, process, etc.
      - What are the significant weaknesses of this approach, material, process, etc.
   b. Have three students currently in the course respond to the following questions:
      - Describe the types of individualized instruction that you have received in this course.
      - What are the advantages for the students from these types of individualized learning experiences?
      - What are the disadvantages for the students from these types of individualized learning experiences?

3. List what courses or areas this school plans to initiate individual instruction for the next year.

4. List which areas where additional materials are most needed:
   a. For what content areas are additional individual instruction materials most needed?
   b. What types of media and resources are needed to implement individualized instruction?

5. What are the major problems encountered in carrying out a desired program of individualized instruction?
   a. What are the greatest deterrents in beginning an individualized instruction program in your school?
   b. What other problems restrict the use of individualized instruction programs in your school?

A UW/HES/71

APPENDIX B

LIST OF STUDY RESPONDENTS BY DISTRICT

District 1 - Vocational, Technical and Adult Education
William E. Pynn, Business Education Supervisor

District 2 - Vocational, Technical and Adult Education
Harry Hutchison, Business Division, Chairman
Dean Morton, Marketing, Associate Chairman

District 3 - Vocational, Technical and Adult Education
Donald N. Marcouiller, Business Occupations

District 4 - Vocational, Technical and Adult Education
Dean H. Kammer, Business Education Division

District 5 - Vocational, Technical and Adult Education
Zollie Hall, Business and Marketing Division, Chairman

District 6 - Vocational, Technical and Adult Education
Hubert Braun, Supervisor, Instruction

District 7 - Vocational, Technical and Adult Education
Joseph Tobin, Coordinator, Business and Distributive Educ.

District 8 - Vocational, Technical and Adult Education
F. William Beecher, Business Administration

District 9 - Vocational, Technical and Adult Education
William E. Breese, Dean, Business

District 10 - Vocational, Technical and Adult Education
Paul Wyant, Business and Office Education

District 11 - Vocational, Technical and Adult Education
Marvin Schrader, Curriculum Specialist

District 12 - Vocational, Technical and Adult Education
Dominic Bordini, Asst. Dir., Research, Devlp., Operations

District 13 - Vocational, Technical and Adult Education
Ernest L. DeRoche, Business Education Coordinator

District 14 - Vocational, Technical and Adult Education
Blaine Pederson, Business Education Coordinator
David Twombly, Distributive Education Coordinator

District 15 - Vocational, Technical and Adult Education
Donald Zandi, Chairman, Business and Distributive Educ.

List of Study Respondents by District (Cont.)

District 16 - Vocational, Technical and Adult Education
Dan J. Mitchell, Retail Sales
Eileen Iberg, Individual Development, Communications Ctr.

District 17 - Vocational, Technical and Adult Education
Wayne Sabatke, Administrator, Student Services

District 18 - Vocational, Technical and Adult Education
Warren Leonard, Instructional Planning Research

APPENDIX C

ANNOTATED BIBLIOGRAPHY OF SELECTED RESOURCES

Block, James H. (Editor) Mastery Learning, Theory and Practice, Holt, Rinehart and Winston, 383 Madison Avenue, New York, N.Y. 10017, Copyright 1971, 152 pages, paper

Part One brings together the basic mastery ideas and the relevant supporting research of a concept which suggests that up to 95% of all students can achieve to high levels by existing standards. Part Two contains an annotated bibliography of mastery learning research. There is an interesting section included on learner evaluation.

Bloom, Benjamin S., Hastings, J. Thomas, Madaus, George F.; Handbook on Formative and Summative Evaluation of Student Learning, McGraw Hill Book Co., New York, N.Y., 1971, 915 pages, hardcover

This is an extensive review of literature, with chapters contributed by an additional 11 authors. It deals primarily with objectives, systematic instruction and their relation to evaluation in the learning process. Chapter 23 is of special interest to vocational educators who are concerned about evaluation.

Bloom, Benjamin S. (Ed.) et. al.; Taxonomy of Educational Objectives Handbook I: Cognitive Domain, David McKay Co. Inc., 730 3rd Ave., New York, N.Y. 10017, Copyright 1956, 207 pages, paper

This system for classifying objectives has been used as a basis for many later studies. This taxonomy provides a basis for a hierarchy of objectives.

Brethower, Dale M. et. al., Programmed Learning - A Practicum, Ann Arbor Publishers, 610 S. Forest Ave., Ann Arbor, Michigan 48104, Copyright 1964, 237 pages, paper

This book provides for inductive development of the concept of programmed learning in the fashion that the authors feel programmed materials can contribute to learner concept development in any subject. Using selected portions or the entire book, the reader can be briefed or develop skill adequate to write a program.

Doll, Ronald C. (Editor), Individualizing Instruction, ASCD 1964 Yearbook, Association for Supervision and Curriculum Development, 1201 Sixteenth St., N.W., Washington, D.C. 20036, Copyright 1964, 174 pages, hardcover

This edition deals primarily with the philosophical questions involved with individualizing instruction for the purpose of releasing learner potential. Chapter 4 deals more specifically with individualizing in the classroom.

Drumheller, Sidney V., Handbook of Curriculum Design for Individualized Instruction - A Systems Approach, Education Technology Publications, 140 Sylvan Avenue, Englewood Cliffs, New Jersey, 07632, Copyright 1972, Paper 8½ x 11

This Handbook, with workshop exercise sheets, presents educators with a precise guide for developing curriculum material from rigorously defined behavioral objectives.

Esbensen, Thorwald, Working With Individualized Instruction: The Duluth Experience, Fearon Publishers, 6 Davis Drive, Belmont, California 94002, 1968, 122 pages, paper

The book gives the reader a description and analysis of the successes and failures at Duluth. The author shares his ideas about the future in education and how to initiate an individualized instruction program.

Gagne', R. W., Conditions of Learning, Holt, Rinehart and Winston, 383 Madison Ave., New York, N.Y. 10017, Copyright 1964 and 1970, 2nd Edition, 393 pages plus author and subject indexes, hardcover

The book describes eight distinguishable classes of learning and the corresponding sets of conditions for learning that are associated with them. Further the book deals with the relevance of learning hierarchies to readiness, intellectual development, and the sequence of instruction.

Glaser, R. E. (Ed.), Teaching Machines and Programmed Learning, II: Data and Directions, DAVI-NEA, 1201 Sixteenth St., N.W., Washington, D. C. 20036, Copyright 1965, 806 pages plus 10 page author and 10 page subject indexes, hardcover

This book includes a collection of 17 papers. The first half of this book contains perspectives on educational technology by such notables as Skinner, Gagne' and Lumsdaine. The last half deals with the application of programmed learning to different subjects and situations and concludes with a statement of direction by Glaser.

Goodlad, John I., School, Curriculum and the Individual, Blaisdell Publishing Company, Waltham, Massachusetts, Copyright 1966, 259 pages, hardcover

The author presents his view of the rational man as the result of education He then presents precedures that must be adapted to the needs of the individual including non-grading, differential goals and many other changes that reduce pressures that would be harmful to learner emotional health.

Goodman, Edith Hurwith (Ed.), Automated Education Handbook, Automated Education Center, Box 2658, Detroit, Michigan 48231, Published Annually Basic Volume $35, Annual Updating Service $25

This annual publication presents papers from numerous researchers and writers on the subject of educational technology and programmed learning. Applications discussed range from administration to vocational education.

Gorman, Alfred H., Teachers and Learners, The Interactive Process, Allyn and Bacon, 470 Atlantic Ave., Boston, Mass., Copyright 1969, 189 pages, paper

The author presents the setting and theoretical framework of a teacher-learner communication model. He provides many examples of ways to improve and evaluate communication.

Gronlund, Norman, Stating Behavioral Objectives for Classroom Instruction, Collier-MacMillan Canada Limited, Toronto, Ontario, Canada, Copyright 1970, 58 pages, paper

This practical guide consolidates several skill building activities such as a checklist for evaluating objectives, a list of verbs for stating objectives, additional references and use of Bloom's cognitive taxonomy.

Hendershot, C. H., Programmed Learning: A Bibliography of Programs and Presentation Devices, (4th Edition), Published by Dr. Carl H. Hendershot, 4114 Ridgewood Drive, Bay City, Michigan 48707, Copyright 1970, 400+ pages, paper

Possibly the most complete listing of programmed instructional material available. Materials are listed by subject matter area. Also includes listing of presentation devices. Provides all necessary information for ordering material.

Hudgins, Bruce B., The Instructional Process, Rand McNally, Box 7600, Chicago, IL 60680, 1971, 268 pages, paper

This book deals with most of the basic considerations in teaching. Chapters 10 and 11 deal very well with individual differences and innovation in education.

_____. "Individualizing Instruction," The Educational Technology Review Series, Educational Technology Publications, 456 Sylvan Avenue, Englewood Cliffs, New Jersey 07632, 150 pages, loose leaf
This publication is compilation of recent articles appearing in Educational Technology magazines. The articles range from practical approaches for writing behavioral objectives to projections of the role of the teacher in the future.

_____. Individually Prescribed Instruction, National School Public Relations Association-NEA, 1201 Sixteenth St., N.W., Washington, D.C. 20036, Copyright 1968, 32 pages, paper, Order #411-12420
This is an "Education U.S.A." Special Report on IPI which was first conceived under the leadership of Robert Glaser at Pittsburg. This in-depth report explains the role of objectives, evaluation, pupils teachers and many other factors. It is short, to the point and clearly defines individualized instruction through this example.

Jacobs, Paul I., Maier, Milton H., Stolurow, Lawrence M., A Guide to Evaluating Self-Instructional Programs, Holt, Rinehart and Winston, 383 Madison Ave., New York, N. Y. 10017, Copyright 1966, 84 pages, paper
This book which is divided into three parts, includes an introduction to programmed learning, guidelines on selecting a program and suggestions for doing your own evaluation study of the programmed material.

Johnson, Stuart R. and Johnson, Rita B., Developing Individualized Instructional Materials, Westinghouse Learning Corporation, 100 Park Ave., New York, N.Y. 10017, Copyright 1970, 108 pages, paper, First Edition, Third Printing, March 1971
This book, a self-instructional material in itself, is designed to assist the teacher in producing three essential components of a self-instructional package. The immediate aim of the book is that the teacher will be able to write a self-instructional package that can be tried in his own classroom and revised as needed.

Kapfer, Philip G. and Ovard, Glen F., Preparing and Using Individualized Learning Packages for Ungraded, Continuous Progress Education, Education Technology Publications, 140 Sylvan Avenue, Englewood Cliffs, New Jersey 07632, Copyright 1971, paper, 8½ x 11
This handbook provides detailed models for managing continuous progress education, preparing individualized learning packages, evaluating ILP's and rewarding student progress.

Kibler, Robert et. al., Behavioral Objectives and Instruction, Allyn and Bacon, Inc., Rockleigh, New Jersey 07647, Copyright 1970, 196 pages, paper
The author combines the writings of several people into one of the better guides to writing behavioral objectives. He utilizes an original psychomotor classification plus the cognitive and affective domains classification scheme as a tool to writing better objectives. The book has an above average appendix which includes samples of behavioral objectives, student achievement evaluation forms, key words for objectives from each learning domain.

Krathwahl, David R., t. al., Taxonomy of Educational Objectives Handbook II: Affective Domain, David McKay Co., Inc., 750 3rd Ave., New York, N.Y. 10017, Copywrite 1964, 196 pages, paper
This book is an attempt to classify attitudinal learning. Part I describes the nature of the affective domain including its relation to the cognitive domain. Part II gives the classification scheme in detail and explains some evaluation procedures.

Mager, Robert F., and Pipe, Peter, Analyzing Performance Problems, Fearon Publishers, 6 Davis Drive, Belmont, Calif. 94002, Copyright 1970, 105 pages, paper
Why isn't someone doing what he should be doing? This book explains a procedure for analyzing such problems and helps point the reader in the direction of those solutions that will work.

Mager, Robert F., Developing Attitude Toward Learning, Fearon Publishers, 6 Davis Drive, Belmont, Calif. 94002, Copyright 1970, 104 pages, paper
Based on the assumption that learner attitudes are manifested by learner overt behavior, this book points to ways that the teacher can evaluate learner attitudes.

Mager, Robert F. and Beach, Kenneth M., Developing Vocational Instruction, Fearon Publishers, 6 Davis Drive, Belmont, Calif. 94002, Copyright 1967, 83 pages, paper
This book, especially appropriate for vocational educators, using examples from various fields describes each of the steps involved in the systematic development of instruction. The last section of the book includes a listing of selected instructional resources of several types.

Mager, Robert F., Preparing Instructional Objectives, Fearon Publishers, 6 Davis Drive, Belmont, Calif. 94002, Copyright 1962, 60 pages, paper
This book presents a simple approach to stating learning outcomes in specific observable student behavior. Central concerns are characteristics of behavioral objectives and their relationship to instruction.

McAshen, H. H., Writing Behavioral Objectives, A New Approach, Harper and Row Publishers, 49 East 33rd St., New York, N.Y., Copyright 1970, 116 pages, paper
This book is designed to help the reader develop the skill of writing behavioral objectives. Emphasis is placed on being able to write at three levels: specific noninstructional, minimum level behavioral, and desired level behavioral. Numerous self-tests are included plus an annotated bibliography.

Newell, John M., Student Guide to Gagne's Conditions of Learning, 2nd Ed., Holt, Rinehart and Winston, 383 Madison Ave., New York, NY 10017, Copyright 1970, 164 pages, paper
This is a student workbook to accompany study of Gagné's text.

Pipe, Peter, Practical Programming, Holt, Rinehart and Winston, 383 Madison Ave., New York, N.Y. 10017, Copyright 1966, 70 pages, paper
This is a practical introductory book to the procedures of programming. It suggests in a nontechnical manner the steps in planning a program and some personal insights into writing a program. Lastly, it suggests some testing and revision procedures. The book deals with linear and intrinsic (or branching) programs.

Popham, W. James et. al., AEFA Monograph Series on Curriculum Evaluation: Instructional Objectives No. 3, Rand McNally and Co., P. O. Box 7600, Chicago, Illinois 60680, Copyright 1969, 114 pages, paper
This monograph is addressed to the need for an open educational forum on the topic of educational objectives. The monograph contains four authors papers on the subject, transcriptions of the discussions following the paper reviews, and a brief epilogue at the end by each committee member.

Popham, W. James and Baker, Eva L., Establishing Instructional Goals, Prentice Hall Inc., Englewood Cliffs, New Jersey, Copyright 1970, 130 pages, paper

This book is coordinated with several of the Vimcet filmstrip programs. It includes student response sections and an answer key. The book deals with the systematic instructional model, educational objectives, selecting appropriate objectives, establishing performance standards and the Tyler curriculum rational.

Popham, W. James and Baker, Eva L., Planning an Instructional Sequence, Prentice Hall, Englewood Cliffs, New Jersey, Copyright 1970, 138 pages, paper

This book is coordinated with several of the Vimcet Filmstrip programs. It includes student response sections and an answer key. This volume deals with appropriate practice, supplying the student with knowledge of results, analyzing and sequencing learner behavior, promoting perceived purpose and evaluation.

Popham, W. James and Baker, Eva L., Systematic Instruction, Prentice Hall Inc., Englewood Cliffs, New Jersey, Copyright 1970, 116 pages, paper

Co-authored by the man who is generally held as responsible for the most recent interest in behavioral objectives, this book presents the systematic instructional decision making model which depends on the initial statement of behavioral objectives. All steps of the model are described in an effort to redefine the role of the teacher as an "empiricist" rather than an artist.

Postlewaite, S. N., Novak, J., Murray, H. T., The Audio-Tutorial Approach to Learning, Burgess Publishing Company, 426 South 6th St., Minneapolis, Minnesota 55415, Copyright 1969, 2nd Edition, 149 pages, paper

This book describes the development of the audio-tutorial approach to individualizing instruction for college biology at Purdue University. Many of the findings and techniques are applicable to many situations. The book shares many ideas concerning student evaluation and grading.

Sanders, Norris M., Classroom Questions, What Kinds?, Harper and Row Publishers, Inc., 49 East 33rd St., New York, N. Y. 10016, Copyright 1966, 176 pages, paper

The author uses the cognitive taxonomy as the framework for planning and phrasing questions. Many examples are given in the writing and each chapter is followed by a test and answer key.

Tyler, Ralph W., Basic Principles of Curriculum and Instruction, University of Chicago Press, Chicago, Illinois, Copyright 1949, paper

This book, the basis of many curriculum courses, attempts to explain a rationale for viewing, analyzing, and interpreting the curriculum and instructional program of an educational institution.

Wilhelm, Frederick T. (Editor), Evaluation as Feedback and Guide, ASCD-NEA, 1967 Yearbook, 1201 Sixteenth Ave., N.W., Washington, D.C. 20036, 1967, 291 pages, hardcover

The main theme of this edition is the replacement of grades, marks, tests, and credits with a more basic evaluation.

FILMS

_____. Make a Mighty Reach, 16mm, Color, 49 minutes, 1968, Rental - $11
Available from: Bureau of Audio-visual Instruction
1327 University Avenue
Box 2093
Madison, Wisconsin 53701
or
Rental - $15 from:
Institute for Development of Educational Activities
P. O. Box 446
Melbourne, Florida 32901

This production depicts the dramatic changes taking place in education. Major emphasis of the film is on new educational ideas that take cognizance of the individual abilities of students.

_____. Audio-Tutorial System, 16mm, color, 25 minutes, 1968, Purchase price: $215, Rental - $6.50
Available from: Purdue University Audio-Visual Center
Memorial Center
Lafayette, Indiana 47907

This movie presents in a compressed form many of the facets of the audio-tutorial approach to individualizing Freshman Biology at Purdue University.

FILMSTRIPS

_____. Educational Objectives, Series of 18 tape-filmstrip programs, Vimcet Associates, Box 24714, Los Angeles, California 90024

This series which includes leaders manual, pre and post tests, and student response sheets is designed to train teachers to perform in the Popham systematic instructional model.

The three Popham and Baker books can be used in place of some of these filmstrip programs.

_____. "Individualized Instruction Kit," Association for Educational Communications and Technology-NEA, 1201 Sixteenth St., N.W., Washington, D.C. 20036, set of 6 filmstrip/audiotapes listed below, 1970, Includes 46 case study brochures, and one administration manual, 137 pages. Kit - Total price: $77.50 or Individually - $10.00/ea.

Kit Order # 078-02520

Single Order #	Title
078-02506	Individualized Instruction: Diagnosis and Instructional Procedures
078-02518	" " : Its Nature and Effects
078-02510	" " : Its Objectives and Evaluation Procedures
078-02504	" " : Its Problems and Some Solutions
078-02512	" " : Materials and Their Use
078-02520	" " : Recommendations for Implementation

MAGAZINE ARTICLES

Kliebard, Herbert M., "Bureaucracy and Curriculum Theory" from the ASCD 1971 Yearbook, Freedom, Bureaucracy and Schooling, Association for Supervision and Curriculum Development, 1201 Sixteenth St., N.W., Washington, D.C. 20036, Copyright 1971, hardcover, pp. 74-93

Using the historical context of the social efficiency curriculum theory, Kliebard portrays some of the dangers inherent in the production metaphor which the use of behavioral objectives and technology in education implies.

_____. Kapfer, Philip G. and Swenson, Gardner, "Individualizing Instruction for Self-Paced Learning" The Clearing House, March, 1968, Vol. 42, No. 7, pp. 405-410.

This article explains in brief fashion the "Unipac" style of individualized learning package. Included in the description is the relationship of the parts of the "Unipac" and some helpful hints to the teacher.

MICROFICHE

Simpson, Elizabeth Jane, The Classification of Educational Objectives: Psychomotor Domain, published 1966 ERIC, ED 010 368, University of Illinois, Urbana

This research report includes a review of pertinent literature, a collection and analysis of behavioral objectives for the psychomotor domain, a laboratory analysis of certain tasks which are primarily psychomotor in nature, and a tentative taxonomic form for classification of psychomotor skills.

VIDEOTAPE

Ovar, G., Smith, J. B., Trump, J., and Goodland J., "Individualization of Instruction and Unipacs" Viso-tape films (Concord 1/2 inch), Materials Center of IDEA, 730 N. Euclid St., Suite 304, Anaheim, California.

APPENDIX D

SELECTED ARTICLES ON INDIVIDUALIZING INSTRUCTION

IN BUSINESS EDUCATION

1965 - 1966

1. "Self Instructional Materials Versus Traditional Class Instruction In Business Mathematics." Bernice N. Folz, National Business Education Quarterly, Vol. 34, No. 1, Fall, 1965, p. 17.

   This article was written to test the quality of self-instructional materials for a business mathematics course. No significant difference between lecture group and self taught group was found.

2. "Providing for Individual Differences in the Teaching of Bookkeeping." Kenichi Sato, National Business Education Quarterly, Vol. 34, No. 1, Fall, 1965, p. 50.

   Determine if individual differences are accounted for in the teaching of bookkeeping. Percentages given evaluating successfulness of equipment, teaching materials, and procedures to account for individual differences.

3. "The Future of Programmed Instruction For Distributive Education." Raymond A. Dannenberg, Business Education Forum, Vol. 20, No. 1, October, 1965, p. 23-24.

   In 1965 most educators were unaware of this new media and few programmed units of instruction were written about marketing, retailing, and distribution. Skinner method used glider and written programs. Student read small sequential steps of subject content. Student responded by writing in provided space. Immediately after responding to the statement, the student found the correct answer by sliding a glider down the page, by turning the page, or with a machine by turning the handle.

4. "The Programmed Approach to Instruction." William E. Gibbs, Balance Sheet, Vol. 47, No. 4, December, 1965, p. 151-153.

   The author stresses the need for programmed instruction. The teacher is able to be f eed from a routine and give each more individual instruction. He predicts in the future that programmed instruction will increase the effectiveness and efficiency of the entire educational system.

5. "Dynamic Techniques for the Instruction of Business Law." Alvin C. Beckett, National Business Education Year Book, No. 3, 1965, p. 139-148.

   Discusses the use of new instructional techniques:

   1. Television
   2. Telelecture - picturephone
   3. Transparencies
   4. Computers
   5. Programmed Instruction
   6. Filmstrips

1965 - 1966 (cont'd)

6. "New Media for Teaching General Business." Lohnie J. Boggs, National Business Education Year Book, No. 3, 1965, p. 113-125.

   Classifies "new media" and describes uses of each group.
   1. Audio-visual
   2. Team teaching
   3. Self-instructional
   4. Automation

   Self instructional techniques discussed are:
   1. Audio
   2. Visual
   3. Programmed instruction
   4. Teaching machines

7. "New Media for Teaching Typewriting." Fred S. Cook and Robert E. Wiper, National Business Education Year Book, No. 3, 1965, p. 87-97.

   This article divided media into devices and explained uses of them.
   1. Visual devices
   2. Auditory devices
   3. Audio visual devices

8. "Newer Instructional Media in Business Mathematics." Roswell E. Fairbank, National Business Education Year Book, No. 3, 1965, p.175-184.

   Discusses individualized instruction and various methods.
   1. Programmed instruction and teaching machines
   2. Filmstrip and slide projector
   3. Closed-circuit TV
   4. Tape
   5. Motion picture films
   6. Team teaching
   7. Textbook

9. "New Developments in Business Communications." Harry Huffman, National Business Education Year Book, No. 3, 1965, p. 185-194.

   Major developments discussed:
   1. Data Communications subject matter
   2. New discoveries about English language orderliness
   3. New teaching tool - programmed text.

10. "An Overview of the New Media." Herbert A. Towne, National Business Education Year Book, No. 3, 1965, p. 9-16.

    Discusses teaching devices and their values.
    1. Overhead projector
    2. Opaque projector
    3. Filmstrips
    4. Duplicated materials
    5. Workbook materials
    6. Team teaching
    7. Multiple outlet lab

1965 - 1966 (cont'd)

11. "New Media for Teaching Shorthand." Elizabeth T. Van Derveer, National Business Education Year Book, No. 3, 1965, p. 75-85.

    Discusses media needed to effectively teach shorthand.
    1. Dictating machine
    2. Tape recorders
    3. Flash recorders
    4. Multiple listening outlets
    5. Programmed instruction
    6. Television

12. "Programmed Instruction and Teaching Machines." Leonard J. West, National Business Education Year Book, No. 3, 1965, p. 45-65.

    Discusses conditions for learning, programs, and teaching machines.

13. "New Instructional Media in Business - Economic Education." Ruth B. Woolschlager, National Business Education Year Book, No. 3, 1965, p. 127-137.

    Discusses newer media in the business classroom.
    1. 8 millimeter single film
    2. Programmed learning
    3. Paperbacks and pamphlet materials
    4. Copying machines

14. "The Electronic Dictating Laboratory in a Metropolitan 2-Year College." Rose Palmer, Journal of Business Education, Vol. 41, No. 5, February, 1966, p. 191-192.

    The teacher is relieved only of the vocal problem and the repetitions; the teacher is still physically present giving supervision, assistance, and individual instruction. The secretarial laboratories must be equipped with electronic dictating equipment. No wiring, audio fidelity was used.

15. "Teaching Double-Size Typing Classes with Tapes." Gordon F. Prieb, Business Education World, Vol. 46, No. 6, February, 1966, p. 24-27.

    This experiment compared teaching of typewriting in the normal manner to the teaching of double-size classes, using special tape recordings and individual student headsets. Conclusions and recommendations for this approach are listed.

16. "The Use of Television Instruction in Typewriting." Robert P. Polard, National Business Education Quarterly, Vol. 34, No. 3, Spring, 1966, p. 27-30.

    Discusses a survey made of NABTE member schools made in 1965 concerning televised typewriting instruction. Opinions and conclusions are given.

1966 - 1967

17. "Development and Evaluation of Taped Programmed Instruction in Seven Basic Operations of the Marchant Automatic Rotary Calculator." Brenda Bearn, National Business Education Quarterly, Vol. 35, No. 1, Fall, 1966, p. 7-8.

    Compared results of taped instructional material for Marchant automatic rotary calculator to traditional classroom instruction. Findings given showed experimental individualized taught students had achievement scores.

18. "Application of the Principles of Programmed Instruction to the CBA Unit on Banking." Robert J. Esperanza, National Business Education Quarterly, Vol. 35, No. 1, Fall, 1966, p. 21.

    Discusses basic principles of programmed instruction. Developed programmed unit which dealt with banking services. Used 528 frame Skinnerian type program.

19. "Programmed Textbooks Provide Individual Instruction." Ken Hoffman, Business Education Forum, Vol. 21, No. 4, January, 1967, p. 36-37.

    The article is concerned with the advantages of the use of programmed textbooks and how to develop programmed materials. Programmed textbooks have many features similar to teaching machines. In the linear-horizontal system of programming, simple statements and questions referring to previous statements are written in horizontal series by chapter or major division throughout the textbook. Programmed textbooks teach through the principles of repetition, instant reinforcement, and logical development of presentation.

20. "Shorthand Dictation Lab--Tool or Frill?" Geraldine Ebert and Hetrick A. Foss, Balance Sheet, Vol. 48, No. 6, February, 1967, p. 248-249.

    The authors list guidelines for a well organized program in shorthand. The lab equipment should be wired and cordless. Cordless equipment should be used for general shorthand lab purposes in an average school because this equipment seems to be more successful. Three channels will adequately handle most shorthand labs. Tape receptacles available are spool to spool in many varieties: cartridge types, record types, belt types, single, double, and up to 22 channel types.

21. "A Self Teaching Device For The Ten and Full Key Adding Machines." Charles D. Nadler, Journal of Business Education Vol. 42, No. 6, March, 1967, p. 240.

    The student through a pre-arranged operating routine with adding machines may learn with less effort on the part of the teacher. The student enjoys learning more and gains a lasting value.

1966-1967 (cont'd)

22. "Senior Business Lab." Helen Ahlgren and John Islcra, Jr., Balance Sheet, Vol. 48, No. 8, April, 1967, p. 351-353+.

Team of four teachers control a two unit course called "senior business lab." Flexible scheduling leads to the business student being trained in a realistic office situation. The course has only one hour a day for structured lecture, the rest of the learning time is spent in the lab with the student working at his own pace.

23. "Project Bookkeeping - An Effective Means to Understanding." Alden Myers, Balance Sheet, Vol. 48, No. 8, April, 1967, p. 347-349+.

Project bookkeeping is a series of carefully planned units to make the classroom situation as realistic as possible. The students become interested because they can see that the units of study are applicable to daily business occurences. Students are able to work freely and individually with the instructor acting as an employer.

24. "The Teacher and Programmed Learning." William E. Gibbs, Balance Sheet, Vol. 48, No. 9, May, 1967, p. 402-405.

The author offers much justification for programmed learning. The student is able to learn more rapidly and efficiently. The teacher is able to control the students' learning and still have more time to help slower students.

1967 - 1968

25. "Multiple-Listening Stations Have Many Uses." Buford W. Jones, Business Education Forum, Vol. 22, No. 2, November, 1967, p. 15-16.

New procedures represent more effective classroom instruction. Students work together in transcribing and proofreading available materials. Students also are able to work individually at transcription unit.

26. "Innovations in Distributive Education and Office Occupations in the Rural Community." John H. Madson, Business Education Forum, Vol. 22, No. 2, November, 1967, p. 20-22.

The article is concerned with providing innovations in distributive education and office occupations in many of America's rural schools. Individualized instruction provides a way to adjust educational factors to the best interests of each student. This can be done by:

1. Teacher frequently measures performance of the cooperative student.
2. Student should understand the objectives of instruction and teacher should help student to accept objectives.

1967 - 1968 (cont'd)

26. (cont'd)

3. Students are responsible for the depth of the subject matter.
4. Students grouped for instruction in classrooms with teacher best qualified in specific area.
5. Administration should allow some space for independent study.
6. Different approaches should be tried for each rural area program.

27. "Taped Drills to Develop Speed and Accuracy." Edward J. Reis, The Balance Sheet, Vol. 49, No. 3, November, 1967, p. 100-102.

The author suggests typing drills, which have been taped, to develop students' typing skills. This drill is individualized. Students are abie to move ahead at their own capabilities.

28. "Use or Abuse?" Hetrick A. Foss, Business Education World, Vol. 48, No. 4, December, 1967, p. 12-13.

Discusses practices used in author's shorthand lab. It has a library of 200 single-channel 5 inch reels. Dictation is contained on each side of 600 foot 5 inch reels.

29. "A Flexible, Multi-purpose Curriculum For High School Business Education." Donald J. Tate and Robert F. Sohuck, Journal of Business Education, Vol. 43, No. 4, Jan., 1968, p. 154-156.

The program is written up for a large high school to provide business education curriculum to meet the specific needs of each student.

30. "Principles of Learning and Shorthand Labs." Ellen L. Lensing, Journal of Business Education, Vol. 43, No. 5, February, 1968, p. 193-194.

For learning to progress in shorthand, the teacher must arrange for:

1. Appropriate practice tasks
2. Appropriate spacing and length of practice.
3. Knowledge of results and correction of inadequate responses.

These principles have special significance for the preparation of speed-building tapes. Argues that new labs not only answer to account for individual differences.

31. "Developing Materials For Stenographic Dictating Equipment." Dorothy S. Gleekner, Journal of Business Education, Vol. 43, No. 7, May, 1968, p. 318-319.

This article is about the use of stenographic dictating equipment at a community college in New York City. Also listed are the steps for recording material for each unit of study, and classroom procedure for use of the recorded materials.

32. "The Effectiveness of Programmed Shorthand Materials." Mary Margaret O'Connell, National Business Education Quarterly, Vol. 36, No. 3, Spring, 1968, p. 28-34.

Compares students taught theory of Gregg shorthand through programmed materials with students who were taught from conventional textbooks and evaluates students' opinions of programmed shorthand materials.

1968 - 1969

33. "A Comparison of Instructional Methods Using a Practice Set." John F. Donahue, Business Education Forum, Vol. 23, No. 3, December, 1968, p. 5-7.

The article compares results of bookkeeping students accomplishments and learning in a New Jersey high school in three different situations.

1. Using practice sets in step by step learning.
2. Using practice sets by teams.
3. Using practice sets on an individual basis.

34. "The Modular System at Work." William Burrill, Balance Sheet, Vol. 50, No. 5, January, 1969, p. 214-215+.

The article is about a Connecticut high school which operates on a flexible modular system. The business department has three laboratory centers. All are fully equipped with typewriters. The stenographic lab is wireless with 24 student stations. The office machine lab contains machine transcription equipment, calculators, a key punch unit and a sorter, and several adding machines. When this flexible modular schedule is utilized, there should be no reason for any student to experience failure in any subject.

35. "Individualizing Bookkeeping Instruction." William E. Gibbs, Business Education Forum, Vol. 23, No. 4, January, 1969, p. 21-22.

Discusses individual differences in the classrooms and how the instruction should be adopted to account for these differences. The teacher is told how to set up such a learning situation.

36. Meeting Individual Needs of Office Clerical Students Through the Method of Programmed Instruction." Oleen Henson, Business Education Forum, Vol. 23, No. 5, February, 1969, p. 9-12.

Programmed instruction as a method of providing for individual differences among students can increase the effectiveness of the office clerical teacher. A list of the available programs for teaching proper punctuation is given. Programmed instruction could be used for providing remedial skills, for teaching new materials needed by certain students, and for pursuing a topic in depth.

1968 - 1969 (cont'd)

37. "Meeting Individual Needs of Office Clerical Students Through Individualized Programs of Instruction." Alan C. Lloyd, Business Education Forum, Vol. 23, No. 5, February, 1969, p. 12-14.

The author states that there is a need for individualized instruction and it is an urgent need.

38. "Modular Scheduling - Business Education's New Challenge." Kenneth A. Swatt, The Balance Sheet, Vol. 50, No. 8, April, 1969, p. 346-349+.

The article is concerned with the advantages of modular scheduling to the students and the school. Modular scheduling is aimed toward the maximum development of individuality and to motivate the student to develop to his fullest potential. The program's advantages are listed and discussed in full.

39. "We Have a Performance Curriculum for Typewriting II." Sandra Lee Thiele, Business Education World, Vol. 49, No. 8, April, 1969, p. 10-11.

The article is about modular flexible schedule in Typewriting II. The units of course development are listed. The library consists of an Ekotape system, which has 9 tapes and 36 stations with 72 headsets to permit simultaneous listening to any one tape.

40. "How You Can Use Video Tape." Robert N. Hanson, Business Education World, Vol. 49, No. 9, May, 1969, p. 7-8.

Micro teaching is a teacher education method utilizing a video tape that permits the replay of both audio and visual images. This article stresses micro teaching technique to employ as many of the senses as possible in the learning situation.

41. "Flexible Scheduling in Business Education." Freda Reitz, National Business Education Quarterly, Vol. 37, No. 4, Summer, 1969, p. 17-24.

Flexibility in scheduling offers the key to improving instruction. Used business resource center for teaching aid - library materials, typewriters, transcribers, adding machines, duplicating equipment, and study tables.

42. "An Experiment to Determine the Effectiveness of Teaching Grammar, Punctuation, and Capitalization by Programmed Instruction to Collegiate Business Communication Students." Theodore W. Ivarie, National Business Education Quarterly, Vol. 38, No. 1, Fall, 1969, p. 18-19.

Determined achievement differences between three treatment groups being taught grammar, punctuation, and capitalization. Methods used were:

1. Lecture - discussion classroom
2. Overt response programmed instructional unit
3. Covert response programmed instructional unit

1969 - 1970

43. "Teachers, Students, and the New Individualized Instruction." Harry Huffman, Business Education World, Vol. 50, No. 2, November, 1969, p. 24-25.

The author discusses individualized instruction as a major teaching aid. Individualized instruction should, in the future, make it possible for teacher and student to achieve new dimensions in training never before thought possible.

44. "Planning a Shorthand Lab?" Howard C. Llewellyn, The Balance Sheet, Vol. 51, No. 3, November, 1969, p. 109-111.

The author makes some valid suggestions for installing a shorthand laboratory. Types of equipment and types of laboratories are explained. There are two types of package shorthand labs. One is the fixed kind which is mounted. The other consists of portable equipment. The medium types are either bossed disc or belt and the magnetic tape. Earphones are the over-the-head type or the under-the-chin type. Tapes are open reel, that must be threaded, or cartridges of tape. Laboratory types are: 1) Audio passive lab which allows students only to listen to the source. Sources can be either transcription units, phonographs, or tape recorders. 2) Audio active provides for intercommunication through the lab equipment itself with the students. More expensive and more planning required. 3) Audio comparative - most sophisticated type and is usually used for foreign languages.

45. "Typewriting in a Modular Scheduled Program." Leonora Q. Malavenda, Business Education Forum, Vol. 24, No. 2, November, 1969, p. 13-14.

The teacher remains an integral part in modular scheduling although he does not teach to all students at one time. The plan used here is the Learning Activity Package for teaching typing.

46. "Self Instructional Equipment and Material." Edwin A. Swanson, National Business Education Yearbook, No. 7, 1969, p. 148-160.

Discusses programmed instruction and various methods.

1. TV
2. Closed circuit TV
3. Video tape
4. Classroom television use
5. Computer assisted learning
6. Multiple channel audio lab
7. Tapes and tape recorders
8. Books and library

47. "Team Teaching in Shorthand." Bernard Gleason, The Balance Sheet, Vol. 51, No. 5, January, 1970, p. 196-199.

Dr. Gleason cites some advantages for using team teaching techniques in shorthand classes. The author suggests several recommendations and suggestions for a successful team teaching program.

1969 - 1970 (cont'd)

48. "Use Team-Groups To Individualize Bookkeeping Instruction." Bernard Klopp, Business Education Forum, Vol. 24, No. 6, March, 1970, p.17-18.

The traditional method of teaching is usually to the average student - boring. This article is written to promote a team-group teaching method which is geared to different backgrounds and abilities. This group approach has many variations, but the student works to acquire bookkeeping skills in accordance to his individual ability.

49. "Using A Video Tape Recorder In Typing." Rod Weier, Journal of Business Education, Vol. 45, No. 6, March, 1970, p. 239-240.

While the student is typing, the instructor used a video tape recorder to tape student's hands. The students were then able to see their own techniques.

50. "Implementing Individualized Instruction in Bookkeeping." William E. Gibbs, The Balance Sheet, Vol. 51, No. 8, April, 1970, p. 350-353.

The article discusses the need for an individualized approach in bookkeeping instruction and a possible solution to the problem of incorporating into the classroom the learning conditions required to implement such an approach. The student, due to a wide range of abilities, should be allowed to master each unit of work before proceding to the next unit. This leads to a need for the student to be able to test his understanding of the subject and to receive his corrective feedback immediately following his response to a test-like situation. This type of learning material has become known as programmed instructional material.

51. "Individualizing Instruction for the Disadvantaged." Marion B. Warner, The Balance Sheet, Vol., 51, No. 8, April, 1970, p. 340-346.

The article develops a plan for teaching business education to the disadvantaged student. Each of the following groups is discussed in regard to developing the learner to everyone's satisfaction:

1. the students
2. the teaching staff
3. the administration
4. the community
5. the physical resources

52. "CASSETTES: A New Approach to Teaching Business Subjects." Marvin W. Hempel, The Balance Sheet, Vol. 51, No. 9, May, 1970, p. 392-394.

The cassette recorder/playback units can be purchased for less than $150. This means that the business education teacher can have a first class media system at a relatively low price with many more times the flexibility of an expensive system. Lessons and correlated student guides can be prepared at the same time. Makeup work, seminar approach, and resource center uses are among cassettes' educational advantages. The author also lists maximum individual learning because of cassette usage in education.

1969 - 1970 (cont'd)

53. "Creative Use of Programmed Instruction." Harry Huffman, Business Education World, Vol. 50, No. 6, May - June, 1970, p. 2-3.

Discusses justification for programmed learning and methods of individualized instruction.

1. Programmed texts
2. Pre-recorded simulation tapes
3. Recorded keys with commentary
4. Shorthand tape lab
5. Overhead projector
6. Video tapes
7. Adding machines and calculators
8. Transcribing machines
9. Small group discussions
10. Whole class sessions
11. Multi-course class
12. Individual conferences

1970 - 1971

54. "The Audio Learning Lab in Shorthand." A. J. Lemaster, Business Education World, Vol. 51, No. 1, September - October, 1970, p. 24-25.

Discusses use of shorthand tapes and how to make shorthand labs effective for the student to achieve goals.

55. "Block Rotation: An Individualized Approach to Distributive Education." Darwin L. Krumrey, The Balance Sheet, Vol. 52, October, 1970, p. 52-53.

The author's block rotation system is developed around a series of topics of information needed by the student. After the series has been determined, two or three students are placed in small study groups and started on one of the topics of study. This block rotation is a tool that can provide instruction and further improve the students' education in the changing field of distribution.

56. "Individual Differences Met Through Audio-Visual Materials." Alberta Chapman, Journal of Business Education, Vol. 46, No. 3, December, 1970, p. 117-119.

Discusses audio visual materials needed to account for individual differences:

1. Texts
2. Radio
3. Television
4. Tape Recorder
5. Record Player
6. Programmed Materials
7. Overhead Projector

57. "Individual Instruction in Beginning Typewriting." Judith J. Lambrecht and Mange N. Gardiner, Journal of Business Education, Vol.46, No. 6, March, 1971, p. 243-245.

1970 - 1971 (cont'd)

57. (cont'd)

A program in typewriting was developed to account for individual differences in the classroom. This experimental program did offer a workable solution to adequately meeting the individual differences and accomplishing the goals of beginning typewriting.

58. "Exploratory Business Education." Lorraine M. Davis, Business Education World, Vol. 51, No. 4, March - April, 1971, p. 3-4.

Exploratory Business Education courses aim to provide eighth grade level students with practical experiences in various business courses, and to the world of work. The modular approach is used.

59. "The Paced Letter." Lloyd Fredricks, Business Education World, Vol. 51, No. 4, March - April, 1971, p. 3.

The paced letter is an extension of the paced typing technique that has been a popular straight copy skill building device for many years. Each student is allowed to work at his own speed.

60. "Student Interviews." Patricia A. Fredrickson, Business Education World, Vol. 51, No. 4, March - April, 1971, p. 3.

Teacher asks local business men to participate in the educational process. Each student is told to interview assigned local businessmen about a specific issue.

61. 'Work Units for Independent Study: Typewriting I." Thelma C. Hoyle, Business Education World, Vol. 51, No. 4, March - April, 1971, p. 3-4.

Discusses goals and results of high school individualized learning program for beginning high school typists. Program has been in operation for four years.

62. "Regional Labs: Spearhead Individualized Instruction." Edward A. Perkens Jr., Business Education World, Vol. 51, No. 4, March - April, 1971, p. 2-3.

Innovations in individualized instruction at regional educational laboratories has begun to cause some changes in schools. Hope for the future is broad scale research, development, demonstration, and dissemination of material to individualize the learning process.

63. "Teacher Evaluation in Office Machines Instruction." Jean Vining, Business Education World, Vol. 51, No. 4, March - April, 1971, p. 4.

The teacher can improve individualized instruction by :

1. Evaluating student test performance continuously.
2. Searching for patterns of errors indicating fundamental weaknesses.
3. Making a determined effort to isolate student difficulties.
4. Explaining to each student individually, complex areas in office machine course.